The Invention Claimed is:

1. A telephonic handset comprising an active noise reduction (ANR) system, wherein:

the ANR system comprises a noise reference microphone and a digital filter;

the digital filter is receivingly coupled to the noise reference microphone, and transmittingly coupled to a receiver transducing element in the handset;

the digital filter is a non-adaptive IIR filter; and

the ANR system is configured as a fixed feed-forward noise-cancellation system.

2. The telephonic handset of claim 1, wherein the noise reference microphone has a port, and the port opens through an external surface of the handset that, in use, does not directly face the user's ear.

3. The telephonic handset of claim 2, wherein there is an effective distance between the port of the noise reference microphone and the receiver transducing element, and said distance is no more than 3.8 cm.

4. The telephonic handset of claim 3, wherein the effective distance is no more than 2.5 cm.

5. The telephonic handset of claim 1, wherein:

the ANR system has an operating frequency range;

the receiver transducing element has an approximate transfer function $Y(\omega)$;

when the handset is in use, a transfer function $F(\omega)$ approximately relates ambient acoustic noise pressure n_2 at a user's ear-canal opening to ambient acoustic noise pressure n_1 at the port of the noise reference microphone according to $n_2=F(\omega)n_1$; and

over the operating range, the IIR filter has a transfer function given by the product of a weighting function times $\frac{F(\omega)}{Y(\omega)}$.

6. The telephonic handset of claim 5, wherein the weighting function rolls off above the operating frequency range.

7. The telephonic handset of claim 5, wherein:

$G(\omega)$ is a feasible open loop gain for the ANR system if it is configured as a fixed feedback system instead of a fixed feed-forward system; and

over the operating range, the weighting function is $\frac{G(\omega)}{1+G(\omega)}$.

8. The telephonic handset of claim 5, wherein $F(\omega)$ and $Y(\omega)$ are averaged over a population of representative users.

9. A method of active noise reduction (ANR), comprising:

sampling ambient noise adjacent an external surface of a telephonic handset, thereby to provide a reference signal;

processing the reference signal in a non-adaptive IIR filter, thereby to provide a cancellation signal effective for at least partially canceling ambient noise in the vicinity of the entrance to a user's ear canal; and

feeding the cancellation signal forward to a receiver transducing element substantially without feedback from said element.

10. The method of claim 9, wherein:

the receiver transducing element has an approximate transfer function $Y(\omega)$;

an approximate transfer function $F(\omega)$ relates sampled noise pressure n_2 to ambient noise pressure n_1 in the vicinity of a user's ear canal according to $n_2=F(\omega)n_1$; and

the processing of the reference signal is carried out according to a filter transfer function given by the product of a weighting function times $\frac{F(\omega)}{Y(\omega)}$.

11. The method of claim 10, wherein the weighting function rolls off above the operating frequency range.

12. The method of claim 10, wherein:

$G(\omega)$ is a feasible open-loop gain of a fixed feedback ANR system for the handset; and the weighting function is given by $\frac{G(\omega)}{1+G(\omega)}$.

13. The method of claim 10, wherein $F(\omega)$ and $Y(\omega)$ are averaged over a population of representative users.

14. The method of claim 9, further comprising adjusting the position of the handset relative to the user's ear so as to achieve optimal perceived noise cancellation.

15. The method of claim 9, wherein said sampling is carried out at an external surface of the handset that does not face directly toward the user's ear.

16. The method of claim 15, wherein said sampling is carried out no more than 3.8 cm from the center of the receiver transducing element.

17. The method of claim 16, wherein said sampling is carried out no more than 2.5 cm from the center of said element.

18. The method of claim 15, further comprising adjusting the position of the handset relative to the user's ear so as to achieve optimal perceived noise cancellation.